

CS-21,295

U.S. Serial No. 10/643,986

- 3 -

IN THE CLAIMS:

Kindly cancel claims 16-20, without prejudice:

1. (Previously Presented) A method of dry treating a target surface prior to using the target for sputtering comprising:

a) preparing a target assembly and securing said target assembly in a vacuum chamber of a magnetron sputtering apparatus;

b) energizing the magnetic component of the magnetron sputtering apparatus with a power between about 0.2 kW and about 4 kW for a period of time between about 4 and about 30 minutes to produce a surface dry treatment of a sputtering ion plasma on an exposed surface of the target to effectively reduce inherently undesirable impurities on the surface;

c) removing the treated target assembly from the magnetron sputtering apparatus; and

d) preparing and packaging the target assembly for subsequent use in a sputtering deposition process.

2. (Original) The method of claim 1 wherein the magnetron sputtering apparatus is rotatable and the magnetic component of the magnetron sputtering apparatus is disposed on less than a 180° arc measured at the axis of rotation of the apparatus so as to produce a rotatable sputtering ion plasma on the surface of the target.

3. (Original) The method of claim 1 wherein the target surface is treated for a time period between about 8 and about 10 minutes and a power of between about 0.2 kW and about 0.4 kW.

CS-21,295

U.S. Serial No. 10/643,986

- 4 -

4. (Previously Presented) The method of claim 3 wherein the target surface is treated in an inert atmosphere.

5. (Previously Presented) The method of claim 6 wherein an inert atmosphere is argon.

6. (Original) The method of claim 1 wherein after removing the target assembly from the magnetron sputtering apparatus in step c), at least the surface treated portion of the target assembly is placed in an enclosure to protect it during storage and shipment.

7. (Previously Presented) The method of claim 6 wherein the enclosure is metallic and the metallic enclosure containing the target assembly is further placed into a different enclosure.

8. (Previously Presented) The method of claim 1 wherein the target material selected from the group consisting of titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, or alloys thereof.

9. (Original) The method of claim 2 wherein the magnetic component is FeNdB.

10. (Original) The method of claim 2 wherein the following step is added:

CS-21,295

U.S. Serial No. 10/643,986

- 5 -

d) assembling the treated target assembly into a sputtering apparatus to coat the substrate and then sputtering the target and the burn-in time required is reduced by at least 10% using the treated target of step b) compared to an untreated target.

11. (Original) The method of claim 10 wherein the target surface is treated for a time period between about 8 and about 10 minutes and a power of between about 0.2 kW and about 0.4 kW.

12. (Previously Presented) The method of claim 11 wherein the target material selected from the group consisting of titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, or alloys thereof.

13. (Original) A treated target assembly made by the method of claim 2.

14. (Original) The treated assembly of claim 13 wherein the target surface is treated for a time period between about 8 and about 10 minutes and a power of between about 0.2 kW and about 0.4 kW.

15. (Previously Presented) The method of claim 10 wherein the target material is selected from the group consisting of titanium, aluminum, copper, molybdenum, cobalt, chromium, ruthenium, rhodium, palladium, silver, osmium, iridium, platinum, gold, tungsten, silicon, tantalum, vanadium, nickel, iron, manganese, germanium, or alloys thereof.

05-29-07

16:25

FROM-Praxair, Inc.

+2038372515

T-087 P.007/013 F-959

CS-21,295

U.S. Serial No. 10/643,986

- 6 -

16. (Canceled)

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Canceled)